WHAT IS CLAIMED IS:

1. A system for integrating a fiber optic fixed access network and a fiber optic radio access network, comprising:

at least one radio unit for transmitting and receiving communications with at least one mobile unit;

a first multiplexer for transmitting and receiving the communications with the at least one radio unit and fixed access communications with at least one fixed access subscriber,

wherein the first multiplexer is connected to each of the at least one radio unit and to each of the at least one fixed access subscriber using fiber optic connections, and

wherein each of the at least one radio unit transmits and receives the communications with the first multiplexer using a wavelength that is different for each of the at least one radio unit and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber; and

a second multiplexer, wherein the communications and the fixed access communications are transmitted and received together between the first multiplexer and the second multiplexer through the fiber optic fixed access network using the different wavelengths.

2. The system according to claim 1, further comprising:

at least one main unit, connected to the second multiplexer, for transmitting and receiving the communications with the second multiplexer.

3. The system according to claim 1, further comprising:

means for distributing a reference clock signal through the fiber optic fixed access network at a wavelength that is different from that used to transmit and receive the communications with each of the at least one radio unit and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber.

4. The system according to claim 1, wherein the first and second multiplexers are Ethernet switches that each include a wavelength multiplexer.

5. The system according to claim 4, wherein the wavelength multiplexer performs optical coarse wavelength division multiplexing.

6. The system according to claim 5, wherein the communications and the fixed access communications are transmitted and received together between the first multiplexer and the second multiplexer using a fiber pair in the fiber optic fixed access network.

7. A system for integrating a fiber optic fixed access network and a fiber optic radio access network, comprising:

at least one radio unit for transmitting and receiving communications with at least one mobile unit;

a first multiplexer for transmitting and receiving the communications with the at least one radio unit and fixed access communications with at least one fixed access subscriber,

wherein the first multiplexer is connected to each of the at least one radio unit and to each of the at least one fixed access subscriber using fiber optic connections,

wherein each of the at least one radio unit transmits and receives the communications with the first multiplexer using a wavelength that is the same for each of the at least one radio unit, and

wherein the first multiplexer converts the communications with each of the at least one radio unit into wavelengths that are different for each of the least one radio unit and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber; and

a second multiplexer, wherein the communications and the fixed access communications are transmitted and received together between the first multiplexer and the second multiplexer through the fiber optic fixed access network using the different wavelengths.

8. The system according to claim 7, further comprising:

at least one main unit, connected to the second multiplexer, for transmitting and receiving the communications with the second multiplexer.

9. The system according to claim 7, further comprising:

means for distributing a reference clock signal through the fiber optic fixed access network at a wavelength that is different from that used to transmit and receive the communications between each of the at least one radio unit and the first multiplexer and between the first multiplexer and the second multiplexer and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber.

10. The system according to claim 7, wherein the first and second multiplexers are Ethernet switches that each include a wavelength multiplexer.

11. The system according to claim 10, wherein the wavelength multiplexer performs optical coarse wavelength division multiplexing.

12. The system according to claim 11, wherein the communications and the fixed access communications are transmitted and received together between the first multiplexer and the second multiplexer using a fiber pair in the fiber optic fixed access network.

13. A system for integrating a fiber optic fixed access network and a fiber optic radio access network, comprising:

a first multiplexer for transmitting and receiving communications with at least one radio unit and fixed access communications with a fixed access communications network, wherein the communications and the fixed access communications are multiplexed onto a fiber optic communications link; and

a second multiplexer for transmitting and receiving the multiplexed communications and for transmitting and receiving the fixed access communications with a fixed access network and the communications with a radio network component.

14. The system according to claim 13, wherein each of the at least one radio unit transmits and receives the communications with the first multiplexer using a wavelength that is different for each of the at least one radio unit and

different from that used to transmit and receive the fixed access communications with the fixed access communications network.

15. The system according to claim 13, wherein each of the at least one radio unit transmits and receives the communications with the first multiplexer using a wavelength that is the same for each of the at least one radio unit, and

wherein the first multiplexer converts the communications with each of the at least one radio unit into wavelengths that are different for each of the least one radio unit and different from that used to transmit and receive the fixed access communications with the fixed access communications network.

16. The system according to claim 13, wherein the first and second multiplexers are Ethernet switches that each include a wavelength multiplexer.

17. The system according to claim 16, wherein the wavelength multiplexer performs optical coarse wavelength division multiplexing.

18. The system according to claim 17, wherein the communications and the fixed access communications are transmitted and received together between the first multiplexer and the second multiplexer using a fiber pair in the fiber optic fixed access network.

19. A method for integrating a fiber optic fixed access network and a fiber optic radio access network, comprising the steps of:

transmitting and receiving communications between at least one radio unit and a first multiplexer via fiber optic connections,

wherein the first multiplexer also transmits and receives fixed access communications with at least one fixed access subscriber, and

wherein the communications transmitted and received with each of the at least one radio unit are transmitted and received with the first multiplexer using a wavelength that is different for each of the at least one radio unit and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber; and

transmitting and receiving together the communications and fixed access communications between the first multiplexer and a second multiplexer through the fiber optic fixed access network using the different wavelengths.

20. The method according to claim 19, further comprising the step of:

transmitting and receiving the communications between the second multiplexer and at least one main unit connected to the second multiplexer.

21. The method according to claim 19, further comprising the step of:

distributing a reference clock signal through the fiber optic fixed access network at a wavelength that is different from that used to transmit and receive the communications with each of the at least one radio unit and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber.

22. The method according to claim 19, wherein the first and second multiplexers are Ethernet switches that each include a wavelength multiplexer.

23. The method according to claim 22, wherein the wavelength multiplexer performs optical coarse wavelength division multiplexing.

24. The method according to claim 23, wherein the communications and the fixed access communications are transmitted and received together between the first multiplexer and the second multiplexer using a fiber pair in the fiber optic fixed access network.

25. A method for integrating a fiber optic fixed access network and a fiber optic radio access network, comprising the steps of:

transmitting and receiving communications between at least one radio unit and a first multiplexer via fiber optic connections,

wherein the first multiplexer also transmits and receives fixed access communications with at least one fixed access subscriber, and

wherein the communications transmitted and received with each of the at least one radio unit are transmitted and received with the first multiplexer using a wavelength that is the same for each of the at least one radio unit;

converting, in the first multiplexer, the communications with each of the at least one radio unit into wavelengths that are different for each of the least one radio unit and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber; and

transmitting and receiving together the communications and fixed access communications between the first multiplexer and a second multiplexer through the fiber optic fixed access network using the different wavelengths.

26. The method according to claim 25, further comprising the step of:

transmitting and receiving the communications between the second multiplexer and at least one main unit connected to the second multiplexer.

27. The method according to claim 25, further comprising the step of:

distributing a reference clock signal through the fiber optic fixed access network at a wavelength that is different from that used to transmit and receive the communications between each of the at least one radio unit and the first multiplexer and between the first multiplexer and the second multiplexer and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber.

28. The method according to claim 25, wherein the first and second multiplexers are Ethernet switches that each include a wavelength multiplexer.

29. The method according to claim 28, wherein the wavelength multiplexer performs optical coarse wavelength division multiplexing.

30. The method according to claim 29, wherein the communications and the fixed access communications are transmitted and received together between the first multiplexer and the second multiplexer using a fiber pair in the fiber optic fixed access network.